floating debris; at noon of the 27th it became stationary, having reached a point two feet and eight-tenths above the danger line; on the 28th it began to fall slowly.

Reports from Montreal, Quebec, on the 23d, stated that the Saint Lawrence river had risen one foot and three inches during the preceding twenty-four hours and that the basements of many buildings on the lower streets were flooded. A large part of the village of La Prairie was inundated. The village of Saint Gabriel, near Quebec, was submerged in many places to depths of from six to eight feet. On the 29th it was reported that the damage caused by the freshet at Montreal was estimated at $100,000.

Fort Edward, New York, 24th: about thirty feet of the dam across the Hudson river at this place has been carried away; the water reached the highest point that has been known here for fifteen years.

Saint John, New Brunswick, 27th: a destructive freshet has occurred in the Saint John river; many bridges have been washed away and extensive washouts have occurred along the railroad from Woodstock to Presque Isle.

HIGH TIDES.

Indianola, Texas, 13th, 21st, 22d, 24th.
New London, Connecticut, 26th.

LOW TIDES.

New River Inlet, North Carolina, 20th, 21st, 23d.

VERIFICATIONS.

INDICATIONS.

The detailed comparison of the tri-daily indications for April, 1885, with the telegraphic reports for the succeeding twenty-four hours, shows the general average percentage of verifications to be 83.26 per cent. The percentages for the four elements are: Weather, 87.42; direction of the wind, 79.07; temperature, 79.83; barometer, 88.46 per cent. By geographical districts, they are: For New England, 81.16; middle Atlantic states, 85.57; south Atlantic states, 83.13; eastern Gulf states, 83.56; western Gulf states, 84.71; lower lake region, 80.96; upper lake region, 80.98; Ohio valley and Tennessee, 85.96; upper Mississippi valley, 85.04; Missouri valley, 82.09; north Pacific coast region, 84.20; middle Pacific coast region, 78.16; south Pacific coast region, 86.60. There were forty-six omissions to predict out of 3,753, or 1.22 per cent. Of the 3,707 predictions that have been made, eighty-five, or 2.29 per cent., are considered to have entirely failed; one hundred and thirty-nine, or 3.75 per cent., were one-fourth verified; five hundred and forty-two, or 14.62 per cent., were one-half verified; six hundred and forty-one, or 17.29 per cent., were three-fourths verified; 2,300, or 62.05 per cent., were fully verified, so far as can be ascertained from the tri-daily reports.

CAUTIONARY SIGNALS.

During April, 1885, one hundred and eighty-three cautionary signals were ordered. Of these, one hundred and forty-nine, or 81.42 per cent., were justified by winds of twenty-five miles or more per hour at or within one hundred miles of the station. Thirty-seven off-shore signals were ordered, of which number, twenty-nine, or 78.38 per cent., were fully justified both as to direction and velocity; thirty-four, or 91.89 per cent., were justified as to direction; and thirty-two, or 86.49 per cent., were justified as to velocity. Two hundred and twenty signals of all kinds were ordered, one hundred and seventy-eight, or 80.9 per cent., being fully justified. These do not include signals ordered at display stations where the velocity of the wind is only estimated. Of the above cautionary off-shore signals, twenty-six were changed from cautionary. Five signals were ordered late. In ninety-three cases, winds of twenty-five miles or more per hour were reported for which no signals were ordered.

COLD-WAVE SIGNALS.

During April, 1885, there were seventy-six cold-wave signals ordered, of which number sixty-six, or 86.8 per cent., were justified.

RAILWAY WEATHER SIGNALS.

The following extract is from the April report of the "Alabama Weather Service," under direction of Prof. P. H. Mell, jr.:

Since the last bulletin was issued the Northeastern railroad of Georgia and the division of the East Tennessee, Virginia and Georgia railroad system, extending from Rome, Georgia, to Selma, Alabama, have been added to the service; on the latter road the signals are exposed on the trains and not at the stations, as at other points in the state. Besides the roads mentioned, stations along the Western, the South and North, the Mobile and Girard, the Montgomery and Mobile, Atlanta and West Point, and the Georgia Pacific railroads have furnished reports which show the verification of predictions to be, for the whole state, 92 per cent. for temperature and 91 per cent. for weather.

TEMPERATURE OF WATER.

The following table shows the highest and lowest temperatures of water observed at the several stations; the monthly ranges of water temperature; and the mean temperature of the air at the station. Observations were interrupted by ice during the month as follows: Grand Haven, Michigan, from 1st to 4th; Toledo, Ohio, from 1st to 5th; Detroit, Michigan and Sandusky, Ohio, from 1st to 6th; Cleveland, Ohio, from 1st to 11th; Buffalo, New York and Milwaukee, Wisconsin, from 1st to 18th; Alpena, Michigan, from 1st to 20th; Detroit, Michigan, on 21st and 22d; Duluth, Minnesota, from 1st to 28th; Escanaba and Mackinaw City, Michigan, throughout the month.

Temperature of water for April, 1885.

Station.	Temperature at bottom.		Range.	Average depth, feet and tenths.	Mean temperature of the air at station.
	Max.	Min.			
	°	°	°		°
Atlantic City, New Jersey	56.0	43.1	12.9	4 3	46.6
Alpena, Michigan*	40.0	31.5	8.5	12 2	34.7
Augusta, Georgia	72.0	58.0	14.0	7 6	63.0
Baltimore, Maryland	59.2	39.4	19.8	10 2	54.2
Block Island, Rhode Island	45.6	38.0	7.6	7 3	44.6
Boston, Massachusetts	51.3	33.7	17.6	21 3	46.3
Buffalo, New York*	44.1	33.5	10.6	8 0	39.9
Canby, Fort, Washington Territory	54.3	49.1	5.2	14 9	48.9
Cedar Keys, Florida	78.8	67.1	11.7	8 4	69.4
Chicago, Illinois	52.9	30.7	16.2	7 4	45.3
Charleston, South Carolina	68.8	54.0	14.8	41 0	63.8
Chincoteague, Virginia	64.2	37.0	25.3	2 9	50.8
Cleveland, Ohio*	46.8	35.6	11.2	14 0	44.0
Detroit, Michigan*	46.2	34.0	12.2	24 4	45.1
Duluth, Minnesota*	35.9	35.6	0.3	9 8	36.8
Eastport, Maine	37.4	33.5	3.9	15 1	39.8
Escanaba, Michigan*	77.4	64.5	12.9	12 9	71.9
Galveston, Texas	59.6	32.7	26.9	19 0	42.7
Grand Haven, Michigan*	77.5	67.5	10.0	9 0	71.5
Indianola, Texas	76.8	65.5	11.3	18 0	67.7
Jacksonville, Florida	83.7	74.6	9.1	17 0	76.0
Key West, Florida					
Mackinaw City, Michigan*	69.1	49.6	19.5	5 8	58.9
Macon, Fort, North Carolina					
Marquette, Michigan	45.1	39.1	6.0	8 0	40.4
Milwaukee, Wisconsin*	73.5	58.8	14.7	18 1	66.2
Mobile, Alabama	54.5	38.1	16.4	16 4	46.0
New Haven, Connecticut	45.7	35.1	10.6	11 7	47.0
New London, Connecticut	48.8	36.8	12.0	13 7	47.7
New York City	64.3	47.8	16.5	10 5	57.1
Norfolk, Virginia	71.9	60.3	11.6	17 6	67.0
Pensacola, Florida	45.4	33.3	12.1	16 7	46.1
Portland, Maine	57.4	51.1	6.3	57 5	53.1
Portland, Oregon	54.0	35.0	19.0	10 0	44.9
Sandusky, Ohio*	50.5	40.2	10.3	1 6	47.2
Sandy Hook, New Jersey	59.9	56.9	3.0	35 8	57.1
San Francisco, California	73.0	58.8	14.2	9 3	65.9
Savannah, Georgia	67.2	50.6	16.6	10 9	59.2
Smithville, North Carolina	59.2	39.2	20.0	12 9	46 0
Toledo, Ohio*	68.0	51.0	17.0	14 8	61.8
Wilmington, North Carolina					

* Observations interrupted by ice—see text.

ATMOSPHERIC ELECTRICITY.

AURORAS.

Auroral displays were not numerous during April, 1885. The principal and most extensively observed display was that of the 7–8th; it was reported from stations in the north Pacific coast region, the extreme northwest, Mississippi and Missouri valleys, and in northern Maine. This display was not noticed in the lake districts, owing probably to the cloudiness which prevailed in that region.